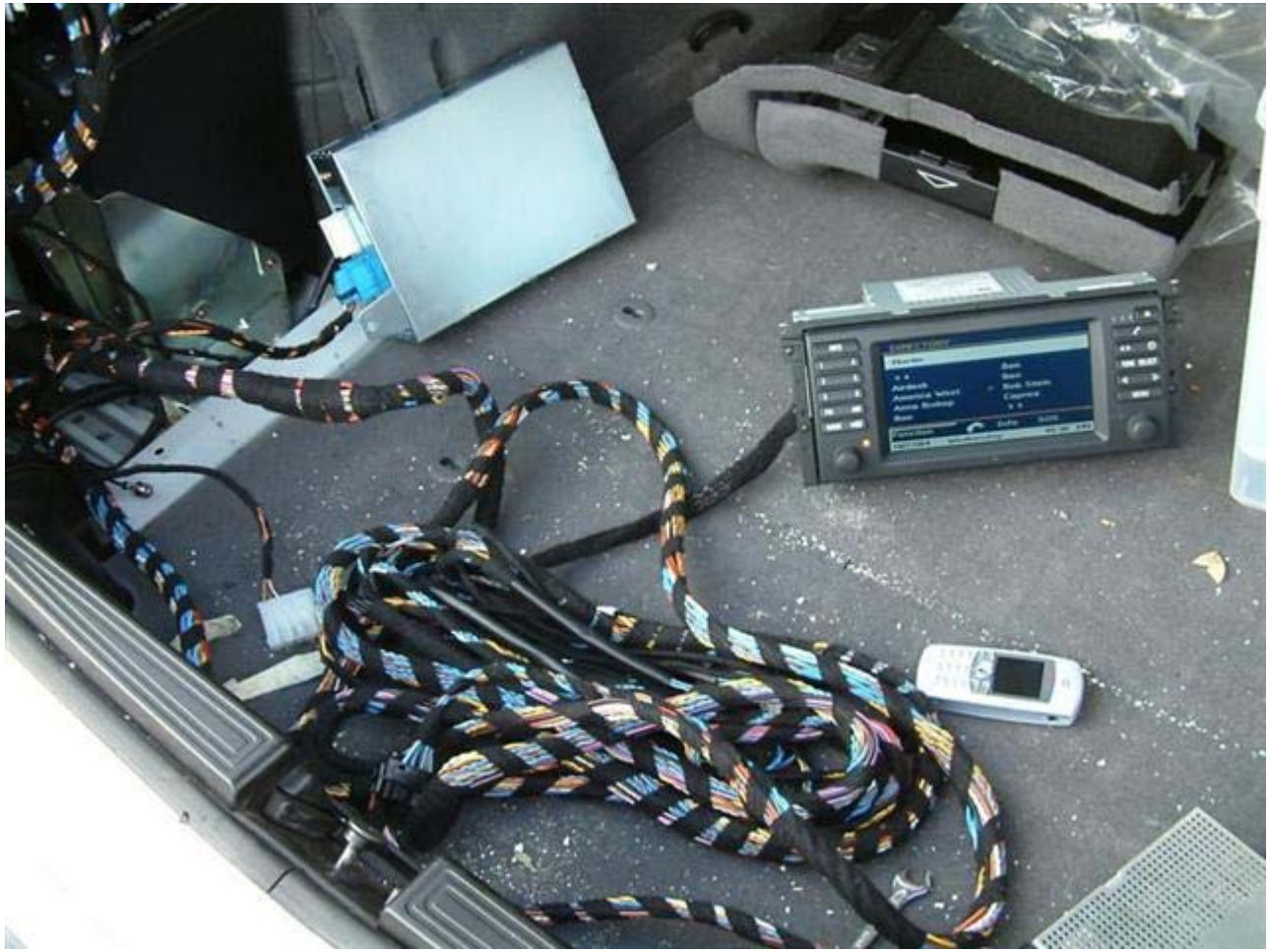
BMW E38 7 series Navigation Retrofit (95 740i)

Main Parts Required

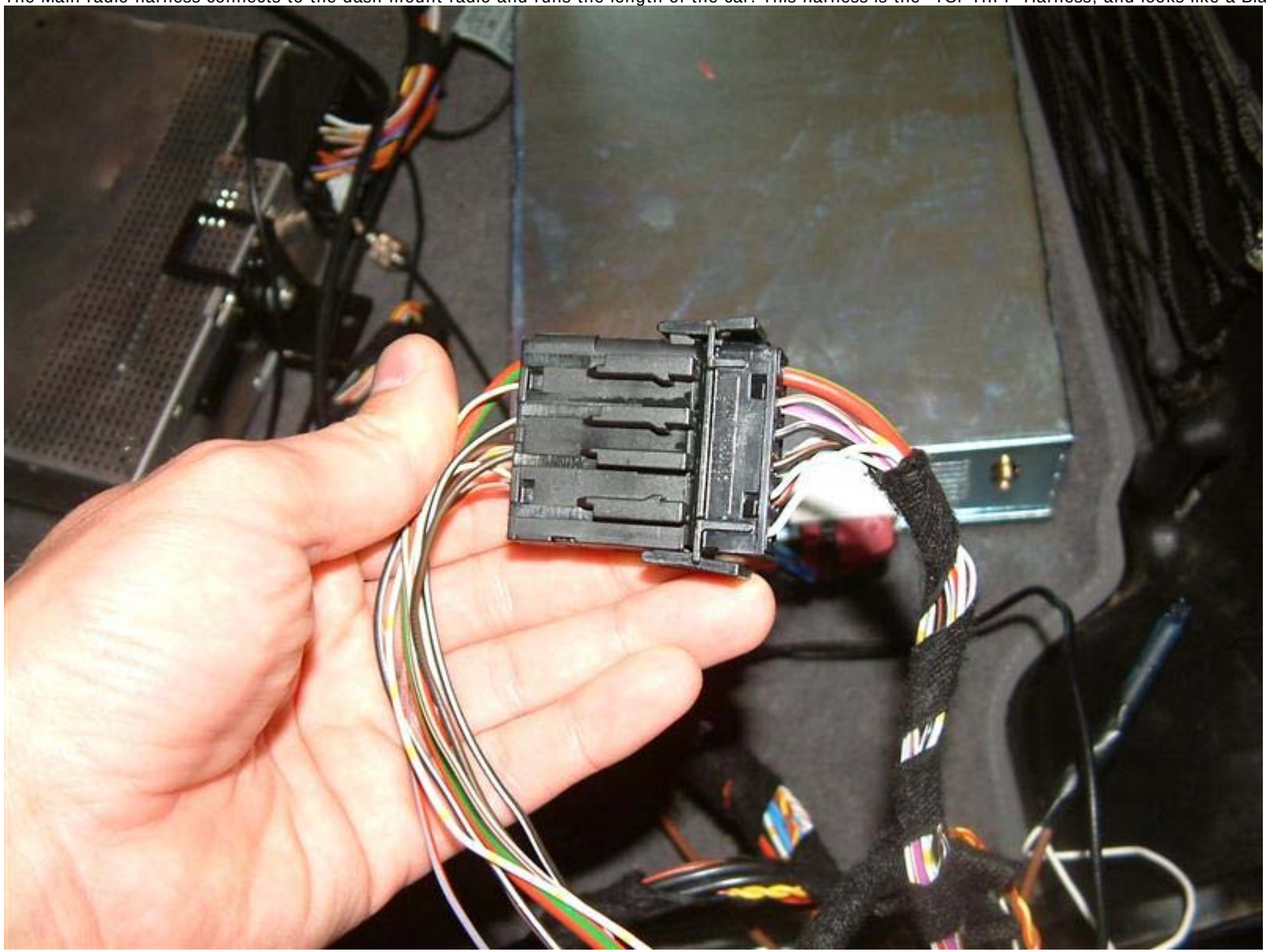
BMW Navigation computer - MKII, MKIII or MKIV -		$750 approx price from Ebay
BMW Navigation Display - 4:3 or 16:9 Widescreen -		$750 approx price from Ebay
Navigation Display Plastic Frame	65 52 8 385 450	$24.89
BMW wiring harness - E38 (I used a 2003 x5 harness w/DSP to allow AUX input and Satellite ready for stereo- more on this later) - $250		
BMW Trunk mount radio - Old Style (pre 2002) or New Style (post 2002 - REQUIRES X5 harness or adapter cables from BMW) - $430		
Center Console Instrument Panel Frame 51 16 8 175 064 -		$73.20
Navigation Computer Bracket 65 90 8 369 053 -		$13.48
Navigation Computer Plastic Frame	51 47 8 177 689	$8.44
GPS Antenna	65 90 8 375 944	$72.55
GPS Antenna Mount	65 90 8 360 725	$4.55
GPS Antenna cable	61 12 8 377 434	$23.06
Trunk Radio Bracket	65 12 8 375 189	$11.71
Radio ANTENNA CABLE 65 24 8 361 023		$18.12
Trunk Panel Cover (opt)	51 47 8 186 699	$175 - SAVE YOUR MONEY on this part. You can cut out the old piece!
Four 2.6M 10mm screws to attach the display to the chassis.		$0.45

Total cost with parts from places like Ebay and Pacific BMW 1-800-909-PART around $2,456 for new parts. Around, maybe $1,000 less for used parts for the 4:3 and MKII or MKIII install. Plus, you can offset some of your costs by selling your old equipment.

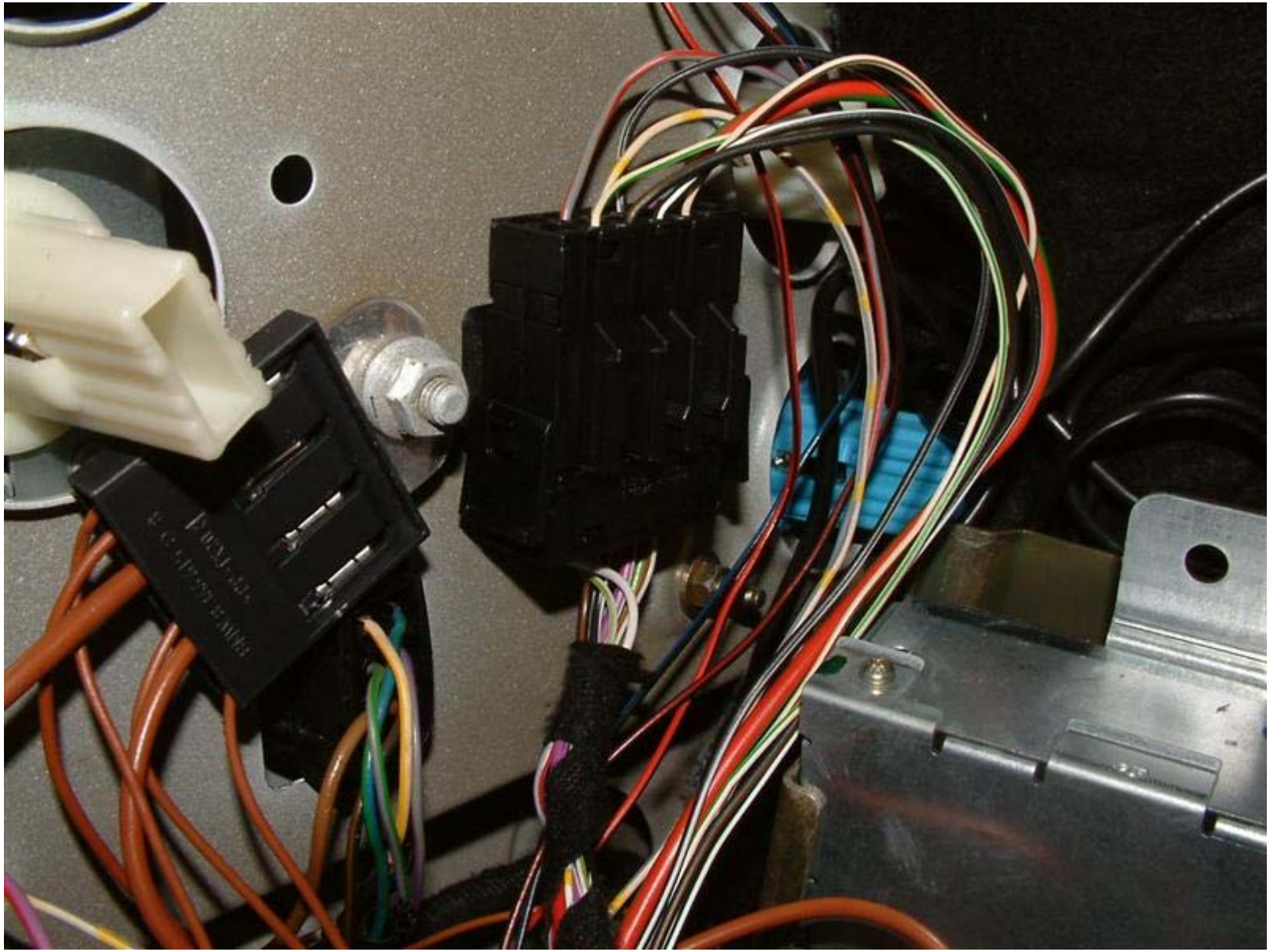
Step 1) attach your navigation parts to the wiring harness, and plug the wiring harness into the Radio wiring harness connector located in the trunk to verify your connections. In the picture below, I hooked a TV video module up to drive the nav display. I had mine working in the trunk in less than 10 minutes. Super easy. Just plug up the parts and plug into the car with the radio plug (see next image)



The Main radio harness connects to the dash mount radio and runs the length of the car. This harness is the "TOP HIFI" Harness, and looks like a Black x400 plug



this Black plug is located on the back side of the tail lights near the phone TCU



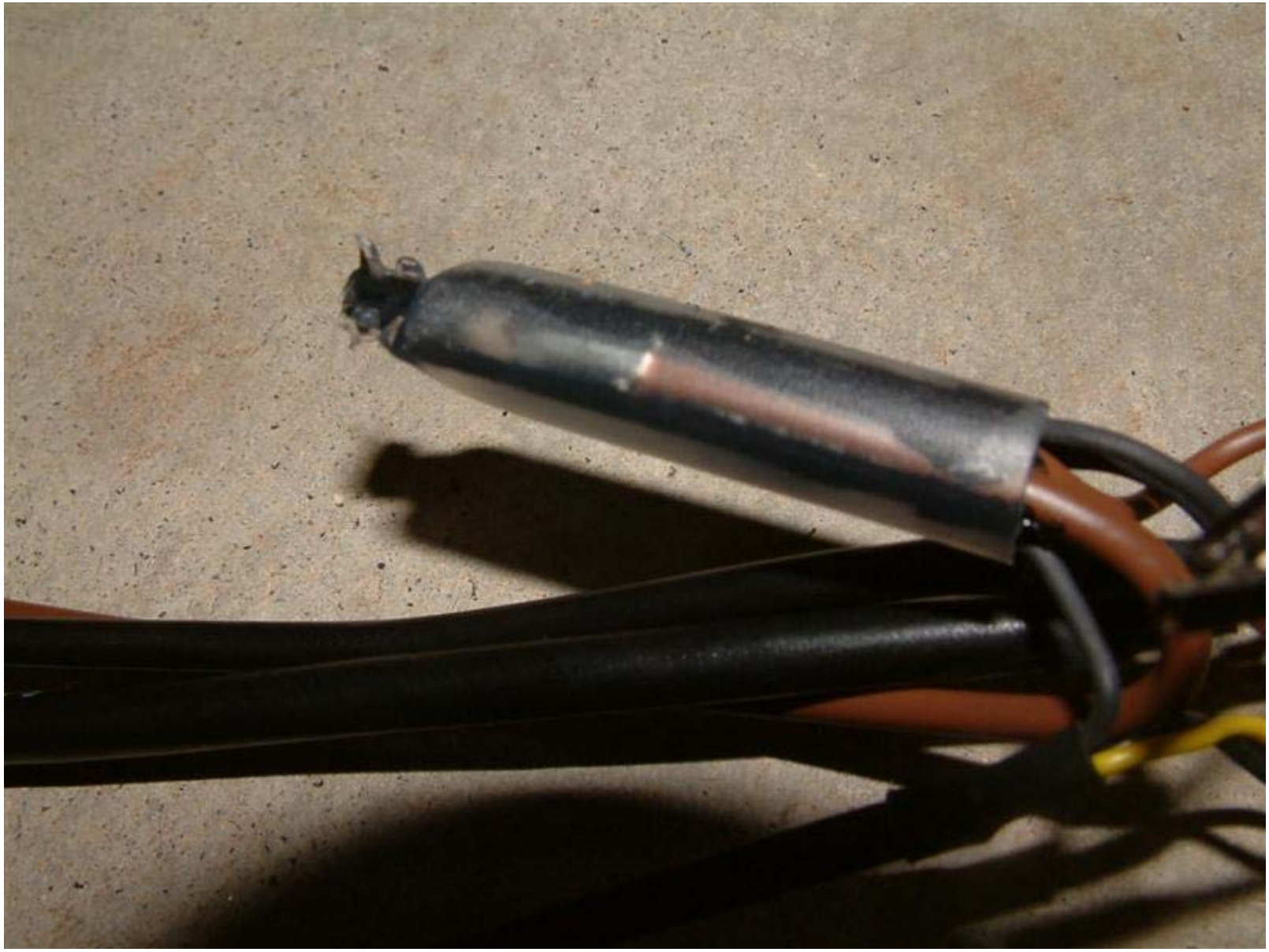
Once you get the system operating in the trunk, the next step is to modify your harness to save time and effort on the install. I unwrapped the fabric tape and removed the 26 pin connector and all of the speaker wires from my harness, as I planned on using the existing DSP speaker wiring.

Once I removed the 26 pin harness, and disconnected the OLD radio harness, it became obvious that I was going to need to provide power, ground and "remote power on" lead to the DSP. BMW makes this simple, as the power and ground are spliced into a junction point on the old and new harness. I just removed the DSP 15 pin connector from the x5 harness and spliced in the power ground and remote turn on lead from the car's harness to the x5 harness.

Next pin 2 on the main harness in the 95 goes to a relay so that accessory power can get more “juice” and they would not have to run it on the main radio harness. No big deal, I just moved the relay to the new harness. I will have to provide some pictures on this as it is simple, but not easy to explain.

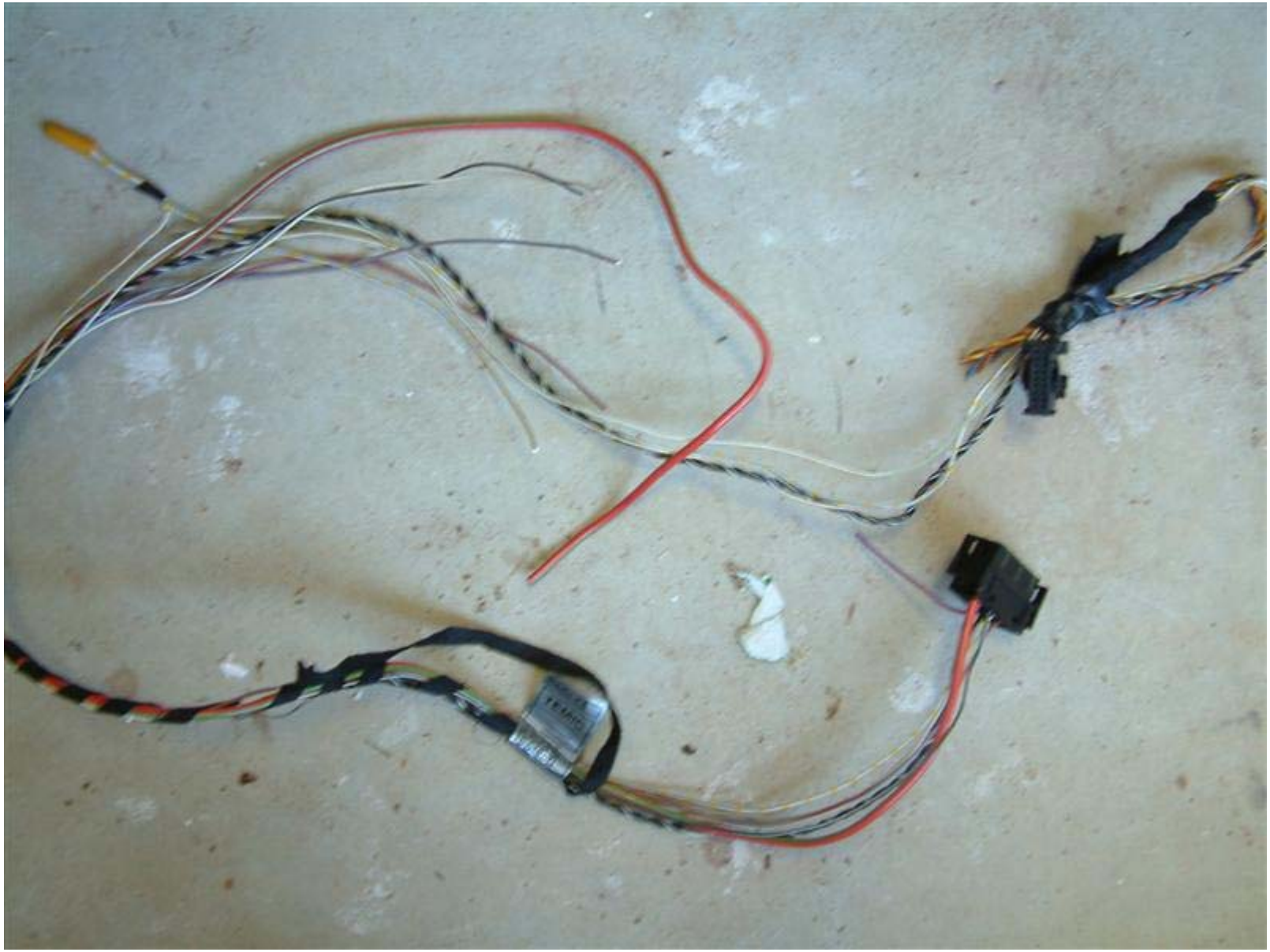
THESE FOUR WIRES WERE ALL THAT I NEEDED TO SPLICE IN MY ENTIRE NAVIGATION RETROFIT!!!

See below images to understand what the junction points look like on the navigation harness. Once you unwrap the fabric tape on the harness you will find splice points that look like the images below (top one with cover on, and bottom with cover removed). In my install, I did move the Ground wire on the amp, but later found out it was not required. You should only need to move 3 wires, power, remote turn on for amp, and possibly move the wire from pin 2 on the old radio harness to the new radio harness depending on the location of the accessory power relay. This relay is obvious as it is mounted just above the rear wheel well and has 4 wires coming out of it. One wire goes to the radio, one to the radio harness, and the others for power and ground.



Since I was using the X5 harness for a DSP system on the E38, I just used the entire 18 pin harness from the x5 harness and plugged it into the DSP amp.

The 18 pin connector that WAS in the original car harness, can be removed from the car, or just taped off. The 18 pin connector goes from the DSP amp and split between the Radio wiring plug in the trunk and dash mount radio in the front. As you can see the main power line goes to the DSP amp needed to be removed and then the new X5 harness needs this wire jumpered to the DSP amp. The purple wire that is cut in the bottom of the picture goes to the accessory power relay for the radio. The other wires going to the radio are no longer needed as the New X5 harness has these already in place.



Running the wires for the navigation display were not that difficult, since I was reusing the existing speaker wires. As a matter of fact, I was able to run the wires very easily up the center console, as one might do for a full car phone retrofit. I started in the rear compartment and just traced the route of the phone connection

This route leads to just below the rear arm rest where you can find a nice passageway thru. It was hard to photograph, but you can see the black plastic passageway, just at the bottom of the metal and top of the insulation.

To gain access, you just have to remove the rear seat and unscrew the two nuts that hold the arm rest in place. Once you remove these nuts you can lift up on the arm rest and it will expose a nice passageway for the wiring. Again, it was hard to photograph this, but you can see the passageway in the black blurry area.

Continue to follow the phone wiring passageway until you reach the under the carpet tunnel

At this point you should start working on the center console. I followed the www.e38.org instructions for removing the center console, which was not that difficult. **I did not remove the center console, but just lifted it enough to get the harness under the carpet using the under the carpet tunnel**

Using this path I was easily able to get the harness up front with plenty of slack

Plastic wiring "Tunnel" To gain access to the under the carpet tunnel, gently lift up on the carpet and loosen the nuts. Once the nuts have been removed you can gently pry up the plastic to gain access. What I did was attach a string to the coax cable in the center console, then I pulled it through the tunnel. Once I got the string to the back of the carpet, I used the same string to pull the coax wire back to the center console. Then I removed the white and blue plug covers on the two connectors, and attached them to the same string and gently pulled them through as well.

Once the wires are through the tunnel you can find an easy path to the center console for running the wires

With the x5 harness I ended up with Lot's of extra slack

Although my install was in a 740i, it appears that their would be plenty of slack to cover the iL

Once the New frame is in place, you are almost done up front

Now that the work inside the cabin is complete, the rest of the work is pretty basic stuff

Mounting the GPS antenna is easy. Just pass the GPS antenna wire through the wiring passageway and catch on the other side. You can then just lift up the rear vent grate and mount the GPS antenna in the proper location, and connect to the wiring. I used this extra (purple) wire to pull the necessary wires into the c-pillar and the back deck to mount the GPS antenna.

The trunk area is easy. Just mount the trunk radio first, then the DSP amp, the nav computer and the CD changer using the new and old brackets and connect all of the components up. I used a dremel tool to cut out the old trunk liner instead of buying a new one. It took me a number of times to get it perfect, but in the end it worked just fine. Remember, cut smaller than needed as you can always cut more later after you re-measure. It is always easier to cut a little more than put it back on if you cut too much.

According to the BMW instructions the last step is to have the car recoded at the dealer. First you will have to use the MODIC to do a "retrofit" for nav, then you will need them to code the DSP amp

BMW specifically says that you must code the retrofit vehicle for everything to work correctly. I have heard of some people who have not coded their cars, but not sure if they work perfectly or not. See BMW info on coding for a retrofit vehicle